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## **Study of nearby effects at the interaction point of the PLUME detector at the LHCb.**

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In the process of measuring the beam status and the luminosity during the Run 3 of the Large Hadron Collider, at the interaction point of the LHCb experiment is projected the Probe for Luminosity Measurement (PLUME) detector. Through the use of Geant4 simulations, the adjacent effects to the operation point are studied by means of the Cherenkov light emitted by particles coming from the collision point that pass through quartz radiators present in the detector. The result of this study derives as expected measurements at the Run 3 of the LHC for the PLUME detector.

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